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# **Revised Service Quality Plan**

As of January 1, 2002, Mass. Electric shall implement a revised Service Quality Plan, which includes Performance Standards for reliability, customer service and safety as set forth in this Revised Service Quality Plan (the "Plan"). The Plan shall be a system of incentives and penalties, which shall be determined annually based on a comparison of actual performance for each measure compared to historical performance. The Plan will be in effect for the calendar years 2002 through 2009. The Plan will amend the Company's Service Quality Plan approved in M.D.T.E. Docket No. 99-47 (the "Prior Plan"), as provided herein.

Except for reliability, the Performance Standards and the incentive and penalty performance mechanisms included in this Plan will be based on the average and standard deviation of actual annual performance for a 10-year period (for example, years 1992 through 2001 will be used for measuring 2002 performance). The 10-year average and standard deviation will be updated annually to reflect the most recent completed year-end. A shorter period shall be utilized, if less than 10 years data are available. The historic data of Mass. Electric, Nantucket Electric and Eastern Edison are to be combined wherever possible. If less than 10 years of data are available, additional data will be included each year until the 10 years of data are available. As such data is updated, the average and standard deviation will also be updated. In the case of the reliability Performance Standards, the average and standard deviation shall initially be based on a 6-year (1996 – 2001) period, with such values subject to update each year by adding one additional year of actual data until ten years of data are available.

The incentives and penalties calculated under each Performance Standard shall be set so that the maximum incentive or penalty shall be incurred for performance at 2 or more standard deviations from the mean (points A and F in Fig. 1 below), with no incentive or penalty for the points between and including the mean plus 1 standard deviation and the mean minus 1 standard deviation (points C and D in Fig. 1 below). For results between 1 and 2 standard deviations from the mean (between points A and B and points E and F in Fig. 1 below), the incentive or penalty shall be calculated in accordance with the following formula:

Incentive or Penalty =  $[0.25 * ((Actual Performance - Average Performance)/(Standard Deviation))^2]$ \* Maximum Incentive or Penalty

The following graph demonstrates the incentive or penalty that would result from above or below average performance:

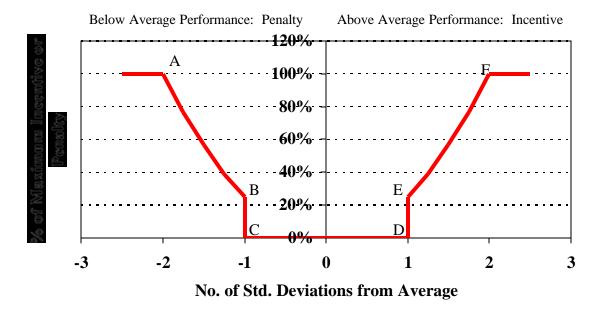


Figure 1.

For each calendar year, the sum of the maximum individual incentives or penalties for the Performance Standards specified below shall be a dollar amount equal to 2 percent of Mass. Electric's prior calendar year distribution and transmission (T&D) revenues, rounded to the nearest \$100,000, such annual revenues being referred to in the respective incentive and penalty formulae below as "AR". If the individual incentive or penalty under any individual Performance Standard is less than \$50,000 it shall be considered to be zero. Notwithstanding the use of an up to ten year rolling average as the basis for the performance mechanism herein, any performance at or below the level of performance established for the maximum penalty using data ending in calendar year 2000 as set forth in Attachment 10b shall be subject to the maximum penalty under the Plan.

In the event that the Company's actual performance in the outage frequency or duration Performance Standard results in the accrual of the maximum possible penalty for such standard for two consecutive years, thereafter, the maximum penalty for such individual Performance Standard shall be twice the value resulting from the formulae contained herein for each subsequent year in which the maximum penalty is accrued for such standard, until actual performance no longer results in the accrual of the maximum penalty for such standard. Furthermore, notwithstanding any other provision hereof to

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the contrary, when the Company accrues a doubled penalty for outage frequency or duration performance, the amount of any such doubled penalty shall be refunded to customers over the next calendar year. Under no circumstances shall the Company be authorized to increase the incentives beyond the amounts determined in accordance with the provisions contained herein.

By March 1<sup>st</sup> of each year, the Company shall report the accumulated incentives and penalties through the end of the prior calendar year under (i) the Plan and (ii) the Prior Plan. Whenever accumulated penalties exceed incentives by more than \$20 million, the excess over \$20 million shall be returned to customers over a one-year period beginning on January 1 of the following calendar year. Whenever accumulated incentives exceed penalties by more than \$20 million, the excess over \$20 million shall be recovered from customers over a one-year period beginning on January 1 of the following calendar year. Notwithstanding the foregoing, any residual accumulated penalty or incentive remaining at the end of 2009 shall be returned to or recovered from customers over a one-year period beginning on January 1, 2011.

The Department has recognized in its order of June 29, 2001 in Docket 99-84 that distribution line losses are greatly affected by fluctuations in load, which are not in the control of the distribution company. In its annual filing with the Department, the Company, after consultation with the parties to the settlement that implemented the Plan, may propose an adjustment to losses for changes in load factor or otherwise propose a change in the distribution losses Performance Standard contained herein. Moreover, nothing in the Plan shall prevent the parties from proposing to increase the weighting of the distribution losses Performance Standard and reducing the weighting of the other Performance Standards in the Plan. Any such proposed adjustment or change will be subject to Department review and approval.

The Plan includes new Performance Standards for service appointments met as scheduled. Because the Company has no historical data on this measure, it will not be included as a Performance Standard until 2005, when three years of historical data are available. Consequently, the weights of the other Performance Standards are increased prorata for the years 2002 through 2004.

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### SERVICE RELIABILITY PERFORMANCE STANDARDS

### **Outage Frequency and Duration**

An outage is defined as the interruption of electric service to one or more customers for at least one minute. The duration per customer served is the total length of time in minutes that an average customer is without service per year. Certain interruptions are excluded from reliability measurements. An interruption excluded from reliability measurements must meet one of the following criteria:

- Any interruption resulting from an event that causes an unplanned outage to fifteen percent (15%) or more of the customers in an operating area or an event that is substantial enough to qualify for Storm Fund treatment;
- Any interruption resulting from the failure or disturbance of a transmission, power supply or other system that is not owned or operated by the Company; or
- C Any interruption resulting from an event that gives rise to a state of emergency being proclaimed by the Governor.

Any interruption initiated by the Company for the purpose of ensuring public safety or employee safety shall be considered a planned/scheduled service outage as defined in the Department's guidelines.

The Company will track the system average interruption frequency index ("SAIFI") and the system average interruption duration index ("SAIDI"). SAIFI shall mean the total number of customers interrupted divided by the total number of customers served by the Company, expressed in interruptions per customer per year. SAIDI shall mean the total duration of customer interruptions in minutes divided by the total number of customers served by the Company, expressed in minutes per year. For the purpose of calculating SAIFI and SAIDI, the assumptions and criteria contained in Section V of Attachment 1 to the Department's June 29, 2001 order in M.D.T.E. Docket No. 99-84 shall be used for standardizing reliability measurements.

Initially, in 2002, the reliability factors shall reflect the average and standard deviation of the Company's performance for the years from 1996 through 2001. [The table below contains data developed from performance in the years 1996 through 2000, which is provided only as an example and to establish the maximum penalty floor in effect for the duration of the plan. For these five years, the average SAIFI performance was 1.166 and the standard deviation was 0.082. For these five years, the average SAIDI performance was 83.59 minutes and the standard deviation was 5.15 minutes.]

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After 2002, the average and standard deviation will be updated each year by including one additional year's data, until ten years of data are available. Thereafter, such values shall be calculated using the ten most recent years' data.

The calculation of the incentives or penalties <sup>(a)</sup> shall be determined using (i) the tables below, with the key break points shown therein, (ii) the formula on page 1 for performance between 1 and 2 standard deviations from the mean (between points A and B and points E and F) and (iii) AR equal to the Company's annual transmission and distribution revenues for the prior calendar year, rounded to the nearest \$100,000:

# **SAIFI**

Break Points	SAIFI	2002 – 2004 Penalty/ (Incentive)	2005 – 2009 Penalty/ (Incentive)
A	1.330 or more	0.25*AR*0.02 (a)	0.225*AR*0.02 <sup>(a)</sup>
B to < A	1.249 to 1.329	[See formula on p. 1.]	[See formula on p. 1.]
C to D	1.084 to 1.248	\$0	\$0
>F to E	1.003 to 1.083	[See formula on p. 1.]	[See formula on p. 1.]
F	1.002 or less	(0.25*AR*0.02)	(0.225*AR*0.02)

## **SAIDI**

Break Points	SAIDI	2002 – 2004 Penalty/ (Incentive)	2005 – 2009 Penalty/ (Incentive)
A	93.88 minutes or more	0.25*AR*0.02 (a)	0.225*AR*0.02 (a)
B to < A	88.75 to 93.87 minutes	[See formula on p. 1.]	[See formula on p. 1.]
C to D	78.44 to 88.74 minutes	\$0	\$0
> F to E	73.31 to 78.43 minutes	[See formula on p. 1.]	[See formula on p. 1.]
F	73.30 minutes or less	(0.25*AR*0.02)	(0.225*AR*0.02)

<sup>(</sup>a) As provided on pages 2 and 3 above, the maximum penalties for SAIFI and SAIDI may be doubled under certain circumstances.

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### **Distribution Losses**

Distribution line losses are defined as the difference between the total energy delivered into the distribution system and the total energy sold to retail customers. Delivered kWh are measured at substation and tie-line meters on an hourly basis, then aggregated over the hours in a calendar year for each distribution company. Monthly kWh sales are measured by billing meters at customer locations, then aggregated across months to get the annual total for each distribution company.

Initially, in 2002, the historical average and standard deviation will be based on data for the years from 1997 through 2001, which are the full years that data for Massachusetts Electric, Nantucket Electric\* and Eastern Edison is available. [The table below contains data developed from performance in the years 1997 through 2000, which is provided only as an example and to establish the maximum penalty floor in effect for the duration of the plan. For these four years, the average performance was 4.29% and the standard deviation was 0.55%]. The calculation of the average and standard deviation will be updated each year, as additional data are available, until ten years' worth of data are reflected in the calculation. Thereafter, such values shall be updated using the ten most recent years' data.

The calculation of the incentive or penalty shall be determined using (i) the table below, with the key break points shown therein, (ii) the formula on page 1 for performance between 1 and 2 standard deviations from the mean (between points A and B and points E and F) and (iii) AR equal to the Company's annual transmission and distribution revenues for the prior calendar year, rounded to the nearest \$100,000:

## **Distribution Line Losses**

Break Points	Distribution Line Losses (12-month rolling average)	2002 – 2004 Penalty/ (Incentive)	2005 – 2009 Penalty/ (Incentive)
A	5.39% or more	0.056*AR*0.02	0.05*AR*0.02
> A to B	4.85% to 5.38%	[See formula on p. 1.]	[See formula on p. 1.]
C to D	3.74% to 4.84%	\$0	\$0
E to $<$ F	3.20% to 3.73%	[See formula on p. 1.]	[See formula on p. 1.]
F	3.19% or less	(0.056*AR*0.02)	(0.05*AR*0.02)

<sup>\*1997</sup> distribution line loss data for Nantucket is not available.

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### CUSTOMER SERVICE PERFORMANCE STANDARDS

# **Telephone Service Factor**

The Telephone Service Factor shall reflect the percent of telephone calls that are answered within 20 seconds by a customer service representative. Initially, in 2002, the historical average and standard deviation will be based on data for the years from 1997 through 2001, which are the full years that Massachusetts Electric's Northborough call center has been in operation. [The table below contains data developed from performance in the years 1997 through 2000, which is provided only as an example and to establish the maximum penalty floor in effect for the duration of the plan. For these four years, the average performance was 73.5% and the standard deviation was 4.2%.] The calculation of the average and standard deviation will be updated each year, as additional data are available, until ten years' worth of data are reflected in the calculation. Thereafter, such values shall be updated using the ten most recent years' data.

The calculation of the incentive or penalty shall be determined using (i) the table below, with the key break points shown therein, (ii) the formula on page 1 for performance between 1 and 2 standard deviations from the mean (between points A and B and points E and F) and (iii) AR equal to the Company's annual transmission and distribution revenues for the prior calendar year, rounded to the nearest \$100,000:

## **Telephone Service Factor**

Break Points	% of Calls Answered Within 20 Seconds	2002 – 2004 Penalty/ (Incentive)	2005 – 2009 Penalty/ (Incentive)
A	65.1% or less	0.111*AR*0.02	0.10*AR*0.02
> A to B	65.2% to 69.2%	[See formula on p. 1.]	[See formula on p. 1.]
C to D	69.3% to 77.7%	\$0	\$0
E to < F	77.8% to 81.8%	[See formula on p. 1.]	[See formula on p. 1.]
F	81.9% or more	(0.111*AR*0.02)	(0.10*AR*0.02)

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### **Service Appointments Met As Scheduled**

"Service appointments met as scheduled" shall reflect the percent of scheduled service appointments met by company personnel on the same day requested, excluding when a customer misses a mutually-agreed upon time. A service appointment shall refer to a mutually agreed upon arrangement for service between the company and the customer that specifies the date for the company's personnel to perform a service activity that requires the presence of the customer at the time of service.

Massachusetts Electric has not tracked this data historically; however, the company will begin collecting this data commencing in January 2002. Then, in the year 2005, the historical average and standard deviation will be calculated based on data for the years from 2002 through 2004. The calculation of the average and standard deviation will be updated each year thereafter, as additional data is available.

Beginning in 2005<sup>(a)</sup>, the calculation of the incentive or penalty shall be determined using (i) the table below, with the key break points shown therein, (ii) the formula on page 1 for performance between 1 and 2 standard deviations from the mean (between points A and B and points E and F) and (iii) AR equal to the Company's annual transmission and distribution revenues for the prior calendar year, rounded to the nearest \$100,000:

<sup>(</sup>a) The parties to the settlement that implemented the Plan have agreed to the deferred implementation of this Performance Standard as a special situation that does not set any precedent for the future or in any other case.

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# Service Appointments Met As Scheduled (Beginning in 2005)

Break Points	% Appointments Met As Scheduled	2005 – 2009 Penalty/ (Incentive)
A	Historical average minus 2 standard deviations or less	0.10*AR*0.02
> A to B	Historical average minus 2 standard deviations plus 1/10 of	
	one percent to historical average minus 1 standard deviation minus 1/10 of one percent	[See formula on p. 1.]
C to D	From historical average minus 1 standard deviation to	
	historical average plus 1 standard deviation	\$0
E to $<$ F	Historical average plus 1 standard deviation plus 1/10 of	
	one percent to historical average plus 2 standard deviations	[See formula on p. 1.]
	minus 1/10 of one percent	- 1 2
F	Historical average plus 2 standard deviations or more	(0.10*AR*0.02)

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# **On-Cycle Meter Readings**

On-Cycle Meter Readings shall reflect the percent of meters that are actually read by the company on a monthly basis. Eligible meters include both residential and commercial accounts. Initially, in 2002, the historical average and standard deviation will be based on the currently available data for the seven years from 1995 through 2001. [The table below contains data developed from performance in the years 1995 through 2000, which is provided only as an example and to establish the maximum penalty floor in effect for the duration of the plan. For these six years, the average performance was 91.7% and the standard deviation was 2.7%.] The calculation of the average and standard deviation will be updated in each of the following three years, as additional data are available, until ten years' worth of data are reflected in the calculation. Thereafter, such values shall be updated using the ten most recent years' data.

The calculation of the incentive or penalty shall be determined using (i) the table below, with the key break points shown therein, (ii) the formula on page 1 for performance between 1 and 2 standard deviations from the mean (between points A and B and points E and F) and (iii)-AR equal to the Company's annual transmission and distribution revenues for the prior calendar year, rounded to the nearest \$100,000:

## **On-Cycle Meter Readings**

Break Points	On-Cycle Meter Readings	2002 – 2004 Penalty/ (Incentive)	2005 – 2009 Penalty/ (Incentive)
A	86.3% or less	0.111*AR*0.02	0.10*AR*0.02
> A to B	86.4% to 88.9%	[See formula on p. 1.]	[See formula on p. 1.]
C to D	89.0% to 94.4%	\$0	\$0
E to $<$ F	94.5% to 97.0%	[See formula on p. 1.]	[See formula on p. 1.]
F	97.1% or more	(0.111*AR*0.02)	(0.10*AR*0.02)

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### **Consumer Division Cases**

Customer complaints shall be categorized as a Consumer Division Case when the Consumer Division opens a written record using the criteria contained in Section III.A. of Attachment 1 to the Department's June 29, 2001 order in M.D.T.E. Docket No. 99-84.

The 'Consumer Division Cases' Performance Standard shall measure the number of cases per 1,000 customers. Initially, in 2002, the historical average and standard deviation will be based on data for the years from 1992 through 2001. [The table below contains data developed from performance in the years 1992 through 2000, which is provided only as an example and to establish the maximum penalty floor in effect for the duration of the plan. For these years, the average performance was 0.96 and the standard deviation was 0.17.] Thereafter, such values shall be updated using the ten most recent years' data.

The calculation of the incentive or penalty shall be determined using (i) the table below, with the key break points shown therein, (ii) the formula on page 1 for performance between 1 and 2 standard deviations from the mean (between points A and B and points E and F) and (iii) AR equal to the Company's annual transmission and distribution revenues for the prior calendar year, rounded to the nearest \$100,000:

## **Consumer Division Cases**

Break		2002 – 2004 Penalty/	2005 – 2009 Penalty/
Points	Cases Per 1,000 Customers	(Incentive)	(Incentive)
A	1.30 or more	0.056*AR*0.02	0.05*AR*0.02
B to $<$ A	1.14 to 1.29	[See formula on p. 1.]	[See formula on p. 1.]
C to D	0.79 to 1.13	\$0	\$0
>F to E	0.63 to 0.78	[See formula on p. 1.]	[See formula on p. 1.]
F	0.62 or less	(0.056*AR*0.02)	(0.05*AR*0.02)

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## **Billing Adjustments**

A Billing Adjustment shall mean a revenue adjustment amount resulting from Department intervention in a billing dispute between the Company and a residential customer. The Department will compile and aggregate monthly the dollar amount of residential Billing Adjustments per 1,000 residential customers. Initially, in 2002, the historical average and standard deviation will be based on data for the years from 1992 through 2001. Each year, the Company will adjust its historical results to index them to current year rates by multiplying (a) the total residential billing adjustments in each historical year by (b) an adjustment factor, which shall be derived by dividing (b¹) the total monthly bill for a typical (500 kWh per month) residential customer in July of the current year by (b²) the total monthly bill for a typical (500 kWh per month) residential customer in July of such historical year. The sole purpose of this index is to eliminate changes in the price of electricity in customers bills from affecting results under this Performance Standard. [The table below contains data developed from performance in the years 1992 through 2000, which is provided only as an example and to establish the maximum penalty floor in effect for the duration of the plan. For these years, the average performance was \$26.92 and the standard deviation was \$8.66.] After 2002, the historical average and standard deviation shall be updated using the ten most recent years' data.

The calculation of the incentive or penalty shall be determined using (i) the table below, with the key break points shown therein, (ii) the formula on page 1 for performance between 1 and 2 standard deviations from the mean (between points A and B and points E and F) and (iii) AR equal to the Company's annual transmission and distribution revenues for the prior calendar year, rounded to the nearest \$100,000:

# **Billing Adjustments**

Break Points	Adjustments Per 1,000 Customers	2002 – 2004 Penalty/ (Incentive)	2005 – 2009 Penalty/ (Incentive)
A	\$44.24 or more	0.055*AR*0.02	0.05*AR*0.02
B to < A	\$35.59 to \$44.23	[See formula on p. 1.]	[See formula on p. 1.]
C to D	\$18.26 to \$35.58	\$0	\$0
>F to E	\$9.61 to \$18.25	[See formula on p. 1.]	[See formula on p. 1.]
F	\$9.60 or less	(0.055*AR*0.02)	(0.05*AR*0.02)

<sup>(1)</sup> In the event that the Department expands its tracking of billing adjustments to commercial and industrial (C&I) customers, the Company will meet with the parties to incorporate C&I billing adjustments in this or a separate

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Performance Standard.

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### SAFETY PERFORMANCE STANDARD

### **Lost Work Time Accidents Rate**

The Lost Work Time Accident Rate shall mean the Incidence Rate of Lost Work Time Injuries and Illness based on 200,000 Employee Hours as defined by the U.S. Department of Labor Bureau of Labor Statistics.

The historical average and standard deviation will be based on the most recent seven-years of available data (initially 1995 through 2001). [The table below contains data developed from performance in the years 1995 through 2000, which is provided only as an example and to establish the maximum penalty floor in effect for the duration of the plan. For these years, the average performance was 1.61 and the standard deviation was 0.25.] The calculation of the average and standard deviation will be updated in each of the following three years, as additional data are available, until ten years' worth of data are reflected in the calculation. Thereafter, such values shall be updated using the ten most recent years' data.

The calculation of the incentive or penalty shall be determined using (i) the table below, with the key break points shown therein, (ii) the formula on page 1 for performance between 1 and 2 standard deviations from the mean (between points A and B and points E and F) and (iii) AR equal to the Company's annual transmission and distribution revenues for the prior calendar year, rounded to the nearest \$100,000:

## **Lost Work Time Accident Rate**

Break Points	Lost Work Time Accident Rate	2002 – 2004 Penalty/ (Incentive)	2005 – 2009 Penalty/ (Incentive)
A	2.11 or more	0.111*AR*0.02	0.10*AR*0.02
B to $<$ A	1.87 to 2.10	[See formula on p. 1.]	[See formula on p. 1.]
C to D	1.36 to 1.86	\$0	\$0
>F to E	1.12 to 1.35	[See formula on p. 1.]	[See formula on p. 1.]
F	1.11 or less	(0.111*AR*0.02)	(0.10*AR*0.02)